



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/784,996

02/25/2004

Seiji Tai

511.36276VV3

9776

20457 7590 02/22/2007
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

MCPHERSON, JOHN A

ART UNIT

PAPER NUMBER

1756

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

C

Office Action Summary	Application No. 10/784,996	Applicant(s) TAI ET AL.	
	Examiner John A. McPherson	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the Amendment filed 12/7/06.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6-273925 [reference AU of the Information Disclosure Statement filed 6/28/05] (JP '925) in view of US 5,294,516 to Sato et al. (Sato). JP '925 discloses a photoresist film for forming phosphor patterns on a fluorescent display, wherein the photoresist composition comprises a base polymer, an ethylenic unsaturated compound, a photopolymerization initiator and a phosphor. Additionally, JP '925 discloses that the film has a thickness of 10-200 microns. To obtain the phosphor patterns the photoresist composition is applied on a film, laminated on a glass base having a conductive circuit, exposed, developed and calcined. See the abstracts; and paragraphs [0004], [0005] and [0014] of the computer-generated translation enclosed with this Office Action. However, JP '925 does not disclose a photosensitive element comprising a filling layer. Furthermore, with respect claims 10 and 11, JP '925 does not disclose the viscosity at 100°C of the filling layer.

Sato discloses a light sensitive transfer material comprising a peel-off support, a thermoplastic resin layer (corresponding to the filling layer of the present invention), an intermediate layer, and a light sensitive resin layer arranged in this order. Additionally, Sato discloses the thermoplastic resin layer has a thickness of 6-100 μm . See the abstract; column 2, lines 12-19; column 2, lines 41-57 and column 4, lines 39-49.

It would have been obvious to one skilled in the requisite art to provide thermoplastic layer between the support film and the light-sensitive resin layer, as taught by Sato, in the photoresist film of JP '925 because it is taught that the presence of a thermoplastic layer provides for the transfer of a light-sensitive layer from a peel-off support to a permanent support without causing poor transfer due to dust, bubbles or unevenness on the permanent support.

With respect to the viscosity of the thermoplastic resin layer at 100°C, the Examiner notes that a thermoplastic resin is by definition a polymeric material that softens and flows when heated. Therefore, it is the position of the Examiner that the viscosity of the thermoplastic resin layer at 100°C is a quantitative measurement of its disclosed thermoplastic property (i.e. a measurement of how much it softens and flows at 100°C), and is accordingly a result effective variable. It would have been obvious to one skilled in the requisite art to arrive at a viscosity of 1 to 1×10^9 Pa·sec, preferably 10 to 1×10^6 Pa·sec, as in the presently claimed invention because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range or value of a result effective variable involves only

Art Unit: 1756

routine skill in the art. See *In re Aller*, 105 USPQ 233 and *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6-273925 [reference AU of the Information Disclosure Statement filed 6/28/05] (JP '925) in view of US 5,294,516 to Sato et al. (Sato), further in view of EP 0 768 573 (EP '573).

The disclosure of JP '925 in view of Sato is discussed above in paragraph 2. However, with respect to claims 7, 8 and 12, neither JP '925 nor Sato disclose the viscosity at 100°C of the photosensitive layer.

EP '573 discloses a phosphor-containing photosensitive resin composition for use in preparing a florescent pattern by laminating a film of the photosensitive resin on a substrate, shifting the photosensitive film to the substrate, exposing the photosensitive film in a pattern state, developing, and calcining, wherein the viscosity at 100°C of the photosensitive resin composition to be used for the photosensitive film is preferably 1 to 1×10^9 Pa·sec, and extremely preferably 10 to 1×10^6 Pa·sec. See the abstract; page 3, lines 14-17; and page 10, lines 4-10.

It would have been obvious to one skilled in the requisite art to utilize a phosphor-containing photosensitive composition have a viscosity at 100°C of 1 to 1×10^9 Pa·sec, preferably 10 to 1×10^6 Pa·sec, in the photosensitive film of JP '925 in view of Sato because it is taught that a phosphor-containing photosensitive resin composition having a viscosity lower than 1 Pa·sec tends to have lower stability, while a phosphor-

Art Unit: 1756

containing photosensitive resin composition having a viscosity higher than 1×10^9

Pa·sec tends to exhibit inferior conformity.

Response to Arguments

4. Applicant's arguments filed 12/7/06 have been fully considered but they are not persuasive.

With respect to the rejection over JP '925 in view of Sato, Applicant argues that JP '925 does not disclose or suggest a photosensitive element for a field emission display panel including a filling layer, much less a filling layer having the recited thickness. However, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Additionally, Applicant argues that JP '925 does not disclose or suggest the thickness of the photosensitive resin composition layer in the present invention. However, JP '925 discloses in paragraph [0014] that the photopolymer layer has a thickness of 10-200 microns.

In response to Applicant's argument that JP '925 and Sato are directed to non-analogous arts, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for

Art Unit: 1756

rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both JP '925 and Sato are directed to a photosensitive element useful for transferring a solid layer of photosensitive material to a substrate, where it is image-wise exposed and developed to form a pattern.

In response to Applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Sato teaches that the presence of a thermoplastic layer provides for the transfer of a light-sensitive layer from a peel-off support to a permanent support without causing poor transfer due to dust, bubbles or unevenness on the permanent support.

Furthermore, Applicant argues that even if the teachings of the applied references were properly combinable, they would neither disclose nor suggest the specific thickness ranges for the thickness of the photosensitive layer and the filling layer, and advantages due thereto. However, JP '925 discloses a photopolymer layer having a thickness of 10-200 microns, and Sato discloses a thermoplastic resin layer (i.e. filling layer) having a thickness of 6-100 μm (see column 4, lines 39-49).

In response to Applicant's argument that JP '925, either alone or in combination with Sato, would have neither taught nor suggested a photosensitive element for a field

Art Unit: 1756

emission display panel, in particular wherein the phosphor is a phosphor capable of forming a phosphor pattern of the filed emission display panel, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The Examiner notes that many of the phosphors exemplified in the present specification (see page 10, line 31 to page 11, line 16) are the same as the phosphors exemplified in Sato (see paragraph [0012]).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

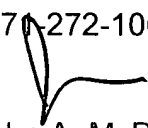
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1756

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (571) 272-1386. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John A. McPherson
Primary Examiner
Art Unit 1756

JAM
2/8/07